

**Amendments to the Claims:**

This list of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

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Claim 1 (currently amended): A longitudinal recording head for use with a magnetic recording medium, the longitudinal recording head comprising:  
first and second poles defining a non-uniform gap comprising a hollow cavity; and

means for concentrating magnetic flux between the first and second poles in the vicinity of the gap to produce a localized magnetic field in the magnetic storage medium.

Claim 2 (canceled)

Claim 3 (currently amended): A longitudinal recording head according to Claim [[2]] 1, wherein the cavity is curved.

Claim 4 (currently amended): A longitudinal recording head according to Claim [[2]] 1, wherein the cavity is cylindrical.

Claim 5 (currently amended): A longitudinal recording head according to Claim [[2]] 1, wherein the cavity comprises a substantially ellipsoidal or hemispherical shape.

Claim 6 (original): A longitudinal recording head according to Claim 5, wherein the cavity comprises at least one inwardly curved wall.

Claim 7 (currently amended): A longitudinal recording head according to Claim [[2]] 1, wherein the cavity has a length of from about 50 to about 300 nm, a width of from about 50 to about 300 nm, and a depth of from about 50 to about 500 nm.

Claim 8 (currently amended): A longitudinal recording head for use with a magnetic recording medium, the longitudinal recording head comprising:

first and second poles; and

a non-uniform gap defined by the first and second poles, wherein portions of the first and second poles contact each other adjacent an air bearing surface of the recording head.

Claim 9 (currently amended): A longitudinal recording head according to Claim 8, wherein the non-uniform gap comprises a hollow cavity.

Claim 10 (original): A longitudinal recording head according to Claim 9, wherein the cavity is curved.

Claim 11 (original): A longitudinal recording head according to Claim 9, wherein the cavity is cylindrical.

Claim 12 (original): A longitudinal recording head according to Claim 9, wherein the cavity comprises a substantially ellipsoidal or hemispherical shape.

Claim 13 (original): A longitudinal recording head according to Claim 12, wherein the cavity comprises at least one inwardly curved wall.

Claim 14 (original): A longitudinal recording head according to Claim 9, wherein the cavity has a length of from about 50 to about 300 nm, a width of from about 50 to about 300 nm, and a depth of from about 50 to about 500 nm.

Claim 15 (withdrawn): A method of making a gap between first and second poles of a longitudinal recording head for use with a magnetic recording medium, the method comprising the steps of:

providing first and second adjacent poles; and  
creating a cavity between the first and second poles.

Claim 16 (withdrawn): The method according to Claim 15, wherein the step of creating a cavity is accomplished by removing material from at least one of the first and second poles.

Claim 17 (withdrawn): The method according to Claim 15, wherein the step of creating a cavity is accomplished using focused ion beam direct etching.

Claim 18 (withdrawn): A method according to Claim 15, wherein the cavity is curved.

Claim 19 (withdrawn): A method according to Claim 18, wherein the cavity comprises a substantially ellipsoidal or hemispherical shape.

Claim 20 (new): A longitudinal recording head according to Claim 1, wherein portions of the first and second poles contact each other at an air bearing surface of the recording head.

Claim 21 (new): A longitudinal recording head according to Claim 1, wherein the non-uniform gap has a length that is not constant along a dimension perpendicular to an air bearing surface of the recording head.

Claim 22 (new): A longitudinal recording head according to Claim 1, wherein the cavity comprises a volume from which material from the first pole and/or from the second pole has been removed.

Claim 23 (new): A longitudinal recording head according to Claim 8, wherein the portions of the first and second poles contact each other at the air bearing surface of the recording head.

Claim 24 (new): A longitudinal recording head according to Claim 8, wherein the non-uniform gap has a length that is not constant along a dimension perpendicular to an air bearing surface of the recording head.

Claim 25 (new): A longitudinal recording head according to Claim 8, wherein the non-uniform gap comprises a cavity having a volume from which material from the first pole and/or from the second pole has been removed.

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